INFORMATION COLLECTION REQUEST

U.S. ENVIRONMENTAL PROTECTION AGENCY

DETAILED INDUSTRY QUESTIONNAIRES: PHASE III
COOLING WATER INTAKE STRUCTURES

DRAFT

December 12, 2002

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PART A OF THE SUPPORTING STATEMENT

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1. Identification of the Information Collection

1(a) Title of the Information Collection

Detailed Industry Questionnaire: Phase III Cooling Water Intake Structures

1(b) Short Characterization (Abstract)

The U.S. Environmental Protection Agency (EPA or the "Agency") requests approval from the Office of Management and Budget (OMB) to conduct a detailed industry survey of facilities potentially subject to Section 316(b) of the Clean Water Act (CWA), 33 U.S.C. 1326(b). This action requests a three-year extension of the Information Collection Request (ICR), which OMB approved in December 1999 entitled Industry Detailed Questionnaire: Phase II Cooling Water Intake Structures (EPA ICR No. 1838.01, OMB # 2040-0213, expiration December 31, 2002). Section 316(b) provides that any standard established pursuant to Sections 301 or 306 of the CWA and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available (BTA) for minimizing adverse environmental impact. Such impacts occur as a result of impingement (where fish and other aquatic life are trapped on technologies at the entrance to cooling water intake structures) and entrainment (where aquatic organisms, eggs, and larvae are taken into the cooling system, passed through the heat exchanger, and then pumped back out with the discharge from the facility).

The revised detailed questionnaire survey related to the extension action would potentially affect those existing facilities that use cooling water intake structures to withdraw water from waters of the U.S. for cooling purposes and that have or are required to have a National Pollutant Discharge Elimination System (NPDES) permit issued under section 402 of

the Clean Water Act (CWA). In addition to the entities identified in the new facility rule, see 66 FR 65,256, and 257, this action may affect existing and new Offshore and Coastal Oil and Gas Extraction Facilities, and existing and new Offshore Seafood Processors because EPA did not survey these industry categories during the original information collection effort. In addition, EPA may contact approximately 25 Phase III facilities (Traditional Steam Electric Utilities, Nonutility Power Producers, Paper and Allied Products; Chemical and Allied Products; Petroleum and Coal Products; Primary Metals) because they did not fully answer the survey questions or provided questionable data. is the second step of a two-step regulatory information collection effort.

The offshore and coastal oil and gas extraction facilities and offshore seafood processing facilities would be most likely affected by extension of the data collection effort because EPA did not survey these industries during the original information collection request effort. EPA did not survey these industries because, at the time, EPA was not aware that these facilities used cooling water in volumes potentially subject to regulation under Section 316(b) of the CWA. The Office of Science and Technology (OST) will use the information collected from the revised detailed questionnaire survey effort to help better understand the design, location, construction, capacity, and operation of cooling water intake structures at Offshore and Coastal Oil and Gas Extraction Facilities, and Offshore Seafood Processors throughout the United States and to assess economic impacts from any regulatory effort affecting those facilities. EPA does ***not*** intend to make judgements via answers to this questionnaire about whether a facility is in compliance with Section 316(b). The survey is simply a tool to help EPA characterize the design, location, construction, and capacity of cooling water intake structures on a national basis for Offshore and Coastal Oil and Gas Extraction Facilities, and Offshore Seafood Processors. The baseline technical and environmental data will help EPA frame regulatory options for these industrial categories. The survey also collects economic data on facility ownership, major activities, markets and finances. The Agency will use this information to assess facility-level and firm-level impacts of complying with the proposed cooling water intake structure regulations. In order to evaluate fully costs associated with a proposed Section 316(b) regulation, EPA will

consider the costs associated with performing Section 316(b) demonstrations, additions and modifications to cooling water intake structures and equipment, and operating and monitoring costs associated with the regulation, and, for electricity generators, the replacement power cost associated with unit down-time during the construction period. The economic data will also enable EPA to carry out required economic analyses, including a Regulatory Impact Analysis (RIA), a cost/benefits analyses, and requirements of the Small Business Regulatory Enforcement Fairness Act (SBREFA).

At the time of the original ICR, EPA anticipated that the Section 316(b) regulation would cover a large number of industrial categories since Section 316(b) potentially applies to any industrial facility that withdraws water from surface water sources and uses it for contact or noncontact cooling purposes. However, EPA ultimately narrowed its information research activities to focus on traditional utilities, nonutility power producers, and four other industrial categories for which publicly available data showed large quantities of cooling water use. Traditional utilities and nonutility power producers that use cooling water were further limited to those plants that generate electricity by means of steam as the thermodynamic medium (steam electric) because they are associated with large cooling water needs. Facilities in the traditional steam electric utility category are classified under Standard Industrial Classification (SIC) codes 4911 and 493, while nonutility power producers are classified under the major code that corresponds to the primary purpose of the facility (e.g., the primary code may be SIC 49 if the primary purpose of the facility is to generate electricity). The four industrial categories (also referred to as the "other industries" throughout this document) that were identified and found to use large amounts of cooling water are Paper and Allied Products (SIC Major Group 26), Chemical and Allied Products (SIC Major Group 28), Petroleum and Coal Products (SIC Major Group 29), and Primary Metals (SIC Major Group 33). Together, EPA estimates that these six industrial sectors account for more than 99 percent of all cooling water used in the U.S. However, information provided in public comments on EPA's "Phase I" regulatory proposal for new power plants and industrial facilities made EPA aware of the use of cooling water by

offshore and coastal oil and gas extraction facilities and offshore seafood processing facilities and prompted EPA to defer consideration of these categories until the Phase III rule, which under the second amended consent decree must be proposed no later than November 1, 2004.

The survey effort will incorporate three different questionnaires to collect both firm-level and facility- (or plant-) level technical and financial/economic information. Some questionnaires will collect minimal information while others will collect more detailed information. All questionnaires have been designed with the intent to minimize burden on the respondents to the extent possible.

There are three questionnaires that will be distributed under this effort.

- Detailed Industry Questionnaire: Phase III Cooling Water Intake Structures - Offshore and Coastal Oil and Gas Extraction
- Detailed Industry Questionnaire: Phase III Cooling Water Intake Structures - Offshore Seafood Processors
- Short Technical Industry Questionnaire: Phase II Cooling Water Intake Structures - Offshore Seafood Processors

The first two questionnaires listed above comprise the detailed questionnaire survey effort. These questionnaires are designed to minimize respondent burden, where possible. The questionnaires will be organized into two different packages and sent out to the two major industry groups: Offshore and Coastal Oil and Gas Extraction and Offshore Seafood Processors.

Under the Offshore and Coastal Oil and Gas Extraction category, each firm will receive a package that contains two parts, consisting of scoping and financial/economic questions. Detailed questionnaires requesting plant-level financial/economic information will be directed to a sample of firms (100 firms) that have been chosen based on certain characteristics or stratifying

variables. EPA has acquired current industry surveys and commercial databases that identify offshore and coastal oil and gas extraction facilities in the Gulf of Alaska, California, and the Gulf of Mexico. Through these sources, EPA has obtained sufficient current technical data on offshore and coastal oil and gas extraction facilities and does not intend to collect additional technical data through the Detailed Industry Survey.

The survey package sent to Offshore Seafood Processors would entail a two step process. EPA has begun to collect publicly available information on seafood processing vessels to identify uses and volumes of cooling water, numbers of facilities, where they are located, and how many of them are small businesses. Data indicate that seafood processing plants (floating vessels or on-board factory trawlers) do use cooling water and withdraw volumes of cooling water that may make them potentially subject to regulation under Section 316(b) (approximately 1200 facilities). EPA does not have enough information on this category of facilities to effectively narrow the sample size. Therefore, EPA is first intending to send the Industry Short Technical Questionnaire to a large percentage of the known offshore seafood processing facilities to determine which ones would potentially be affected by the Phase III rule. EPA then intends to send the Detailed Industry Questionnaire to a subset of potentially affected facilities to collect additional technical, economic and financial data.

Facilities and plants that receive the detailed industry questionnaires must complete and return them to EPA within 60 days of receipt. Plants that receive the Short Technical Industry Questionnaire must complete and return it within 30 days of receipt.

Toll-free help lines for both technical and economic/financial data will be maintained by the Agency to assist facilities in responding to the questionnaires. Once the responses are returned, Agency contractors will tabulate respondents' answers into a computer database for further analyses.

2. Need for and Use of the Collection

2(a) Need/Authority for the Collection

EPA is developing regulations implementing Section 316(b) of the CWA, 33 U.S.C. 1326(b) pursuant to a Consent Decree in Riverkeeper v. Whitman [93 civ.0314 (AGS)] entered on October 10, 1995, which was subsequently amended on November 22, 2002, and again on November 25, 2002. Under the first amended consent decree, EPA proposed "Phase I" regulations for cooling water intake structures at certain new industrial facilities on July 20, 2000, took final action on the Phase I regulations on November 9, 2001, and proposed "Phase II" regulations for approximately 550 existing electric power generating plants on February 28, 2002. Under the terms of the second amended consent decree, must take final action on the Phase II regulations by no later than February 16, 2004. Under the Second Amended Consent Decree, EPA must also propose "Phase III" regulations by November 1, 2004 and take final action on these regulations by June 1, 2006. The Phase III regulations must, at a minimum, address existing utility and non-utility power producers not covered by the Phase II Regulations; and other industrial facilities that employ cooling water intake structures. This includes new and existing Offshore and Coastal Oil and Gas Extraction and Offshore Seafood Processors.

To ensure that any Section 316(b) Phase III regulation is based on accurate information, EPA initiated a variety of data-gathering activities. As stated earlier, the offshore and coastal oil and gas extraction facilities and offshore seafood processing facilities would be most likely affected by extension of the data collection effort because EPA did not survey these industries during the original information collection request effort. EPA did not survey these industries because, at the time, EPA was not aware that these facilities used cooling water in volumes potentially subject to regulation under Section 316(b) of the CWA. Information provided in public comments on EPA's "Phase I" regulatory proposal for new power plants and industrial facilities made EPA aware of the use of cooling water by these facilities and prompted EPA to

defer consideration of these categories until the Phase III rule. The detailed questionnaire survey efforts would provide EPA with background industry- and facility-level information about cooling water intake structures for these two industry categories. EPA would use the information collected through the Short Technical Industry Questionnaire to select Offshore Seafood facilities for receipt of the detailed questionnaires. EPA has the authority to collect this information under Section 308 of the CWA (33 U.S.C. Section 1318).

OMB's regulations implementing the Paperwork Reduction Act provide that an agency submission of a proposed collection of information shall certify that the proposed collection of information "is necessary for the proper performance of the functions of the Agency, including that the information to be collected will have practical utility...." (5 C.F.R. § 1309(a)). According to OMB's draft Paperwork Reduction Act guidance dated February 3, 1997, "[t]he term 'need' means that some programmatic or policy requirement... exists." (Draft Guidance at page 38.) The Draft Guidance continues, "'Need' has been used as the administrative equivalent to stating that the collection of information 'is necessary for the proper performance' of the functions of the agency. 44 U.S.C. 3508." (Draft Guidance at page 38, n. 160.) With respect to the "practical utility" component of "need," the Draft Guidance states, "The term 'practical utility' refers to the usefulness of information (considering its accuracy, adequacy, and reliability) to carry out the agency's functions in a timely manner." (Draft Guidance at page 39.)

EPA believes the collection of the information requested in the detailed questionnaire and the Short Technical Industry Questionnaire for the Offshore and Coastal Oil and Gas Extraction facilities and the Offshore Seafood Processing facilities is necessary to properly perform the Agency's functional requirements. The Consent Decree in Cronin v. Reilly obligates EPA to propose the Phase III regulations implementing Section 316(b) no later than November 1, 2004 and to take final action with respect to the regulations no later than June 1, 2006.

The information collected through the Short Technical Questionnaire and the detailed questionnaire, in conjunction with other data (i.e., from case studies, publicly available data, literature sources, and studies from manufacturers), will help EPA characterize various candidate BTA technologies and determine where and under what environmental conditions these technologies are being used. This will help EPA develop regulatory options for evaluation and enable the selection of a regulatory option for Offshore and Coastal Oil and Gas Extraction facilities and Offshore Seafood Processors when the Agency takes final action as required by the Consent Decree.

2(b) Practical Utility/Users of the Data

As stated earlier, Section 316(b) provides that any standard established pursuant to Sections 301 or 306 of the CWA and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available (BTA) for minimizing adverse environmental impact. As such, EPA will ultimately use the data collected to develop regulatory options for minimizing environmental impacts caused by cooling water intake structures.

With this extension, EPA would collect information via the detailed questionnaire from the Offshore and Coastal Oil and Gas Extraction facilities and the short technical and detailed questionnaire from the Offshore Seafood Processors. The data will be entered into a database that can be queried to provide aggregated information that the Agency can use in decision making and for development of regulatory options during the rulemaking process. Additionally, the data will be used to (1) substantiate the need for the rule; (2) characterize the potentially regulated community; (3) characterize the location, design, construction, and capacity of existing and future cooling water intake structures; (4) support economic analyses needed to support the rulemaking effort including a Regulatory Impact Analysis (RIA) or cost/benefit analysis, an Unfunded Mandates Reform Act (UMRA) analysis, and a Small Business Regulatory

Enforcement Fairness Act (SBREFA) analysis (see *Attachment 2).* The data will also be used to support any guidance needed in the future to support the proposed and final regulations. The data will be used by the Agency and their contractors.

3. Nonduplication, Consultations, and Other Collection Criteria

3(a) Nonduplication

EPA reviewed existing data sources to identify currently available information on entities subject to Section 316(b) regulation and to ensure that the data requested in the Section 316(b) surveys are not otherwise accessible. Data sources reviewed included data collected by offices within EPA; data, reports, and analyses published by other federal agencies; reports and analyses published by industry; and publicly available financial information compiled by government and private organizations.

EPA's research into existing data sources has produced adequate results for technical data on the Offshore and Coastal Oil and Gas Extraction Category. EPA has acquired current industry surveys and commercial databases that identify offshore and coastal oil and gas extraction facilities in the Gulf of Alaska, California, and the Gulf of Mexico. Through these sources, EPA has obtained sufficient current technical data on offshore and coastal oil and gas extraction facilities and does not intend to collect additional technical data through the Detailed Industry Survey. As a result of this nonduplication effort, EPA has been able to eliminate the technical questions asked in the technical portion of the detail industry survey, which reduces the burden by approximately 30 percent from the original detailed industry questionnaire.

EPA has begun to collect publicly available information on seafood processing vessels to identify uses and volumes of cooling water, numbers of facilities, where they are located, and how many of them are small businesses. In the process of researching the Offshore Seafood

Processing industry, public databases were acquired from EPA Region 10 for Alaskan seafood processors. The databases contained general information on both on-shore facilities and vessels such as facility name, parent company name, NPDES number, permit renewal dates, SIC code, contact information, basic facilty or vessel information, product (catch) data and facility coordinates (latitude and longitude). However, these sources do not provided EPA with sufficient cooling water intake structure technical data to determine the impact that the Phase III rule would have on the industry. Therefore, EPA proposes to collect additional technical, economic and financial data on seafood processing plants (floating vessels or on-board factory trawlers).

General Data Sources

EPA Effluent Guideline Data Sources. EPA project managers reviewed existing effluent guidelines development documents for information on cooling water intake structures. The review showed that the development documents contained very little information on cooling water, and no information on the characteristics of cooling water intake structures. Most of the development documents only broadly characterized the total volume of intake water for a particular subcategory of the industry. Furthermore, there was little or no documentation on the different uses of the intake water (e.g., process water, cooling water, etc.) or the volumes or flows that could be attributed to each use. In cases where the development document did distinguish between process water and cooling water, the document typically only gave the percentage of water used for noncontact cooling water versus the percentage for contact cooling water. Consequently, little information about cooling water intake structure characteristics or cooling water use is available in past effluent guideline development documents.

EPA project managers also reviewed the draft questionnaire that EAD developed as part of their recent efforts to revise the Iron and steel industry effluent guidelines. This effort included little or no information on the different uses of intake water or the volumes or flows that

could be attributed to each use. As a consequence, the project managers found no duplication of technical information requested between the two survey tools. Furthermore, the economic portion of the iron and steel industry survey effort did not ask for cooling water specific financial and economic data, the facility's economic dependence on cooling water, or information on steam electric electricity generation. The project managers also reviewed the 1996 *Preliminary Data Summary for the Petroleum Refining Categories*. The report was found to contain minimal information on cooling water use; it only reconfirmed that cooling water is used in the petroleum refining industry.

U.S. EPA Office of Water Data Sources. The EPA's Office of Water maintains two databases that track and evaluate discharges to waters of the U.S.: the Permit Compliance System (PCS) database and Industrial Facilities Database (IFD). EPA project managers examined the data element dictionary for the PCS database and determined that PCS data do not include financial and economic data or other key data items requested in the survey such as cooling water use and characteristics, or operational data on cooling water intake structure operations. The IFD database was found to contain a few data elements that would allow cooling water intake to be quantified. However, the quality of the data is questionable due to sporadic updating and because there are no stringent quality assurance measures in place to verify the accuracy.

U.S. Bureau of the Census Data Sources. The Bureau of the Census, a division of the U.S. Department of Commerce (DOC), conducts a census every five years of the nation's industrial and business activities. The *1982 Census of Manufactures* is the 31st and last census to collect data on cooling water use among the different industrial sectors. A more recent *1992 Census of Manufactures* is the last census published to date, however, it did not collect data on cooling water use. The *1982 Census of Manufactures* collected data from all manufacturing sites concerning employment, inventories, capital expenditures, value added by manufacture, economic concentration ratios in manufacturing, fuel and electric energy consumption, and water use in manufacturing. It was determined that the census data are largely confidential and are

therefore not available to EPA on a site-specific basis. In addition, the data on cooling water use are aggregated only at the two-digit SIC major group level, and are not comprehensively available at the more discerning three and four-digit levels to protect the private entities which the SIC codes represent. While the available cooling water use data were beneficial in assisting EPA to determine the broad categorical industries which use large amounts of cooling water, the census data are not detailed or comprehensive enough to support rulemaking analysis requirements. In addition, EPA questions the current relevance of the data to support rulemaking analysis since the data are nearly 16 years old.

U.S. Geological Survey Sources. The USGS published a document in 1998 called the *Estimated Use of Water in the United States in 1995* (Solley et al. 1998). The report compiled data collected by USGS district offices in conjunction with State Agencies from data collected and stored in the Water Use Files of the database system WATSTORE. This data quantified and described water withdrawals in the U.S. The data provided useful information on industrial water use relative to other types of water uses; however, limitations are inherent in the data. For example, the data did not distinguish between water withdrawn for process use versus cooling water use. In addition, the data are aggregated at the watershed level. No data are available for individual facilities.

Small Business Administration Data Sources. The Small Business Administration (SBA) maintains definitions of small businesses in specific industries and maintains a database that has proven useful to some prior regulatory development efforts. However, the SBA does not maintain information on unit operation and cooling water intake or use, or other detailed technical or financial data required for the Section 316(b) rulemaking analysis.

Federal Reserve Bank Data Sources. The Federal Reserve Bank compiles monetary aggregates and measures of business activity, capacity utilitization, and inflation. These data have been used as a secondary source of information for general economic rulemaking analysis

under the Section 316(b) regulatory development effort , but do not include site-specific and firm-specific data required for Section 316(b) regulation development.

The Dun & Bradstreet Database. The Dun & Bradstreet database provides economic information on domestic businesses at the site level. The data include the Standard Industrial Classification (SIC) code, a description of business, the company name, the site location, a telephone number, the number of employees, some sales information, site area (square footage), the names of corporate executives, and some financial data. These data are available for approximately ten million individual sites in the United States with at least one employee. However, the Dun & Bradstreet database does not provide information about unit operations, cooling water intake structures, water use, and other technical data required for Section 316(b) rulemaking analysis. The database also does not include the required level of detailed economic information EPA needs to support regulatory development. In addition, EPA has learned from other rulemaking efforts, such as the Metal Products and Machinery effluent guidelines, that there are significant numbers of errors in the Dun & Bradstreet data. EPA will use the Dun & Bradstreet database to the greatest degree possible, but the limited scope of the data and the frequency of errors demonstrate that these data are not adequate for Section 316(b) rulemaking.

Value Line Data Sources. Value Line is a securities-related research firm that compiles indicators of financial performance at the level of industries as well as industry projections and profiles. These data may be used for Section 316(b) rulemaking analysis as a secondary source of information, but they do not include the site-specific and firm-specific data required for rulemaking analysis.

Robert Morris Associates Data Sources. Robert Morris Associates is a private banking organization that compiles a report of financial indicators for firms applying for loans from banks. This database includes both public and private firms. It presents industry averages and distributions around averages. Combined with survey data, EPA has used the Robert Morris

Associates database in its economic analysis. However, these data are for too general to be used as the sole basis for Section 316(b) rulemaking.

U.S. Securities and Exchange Commission Data Sources. The Securities and Exchange Commission (SEC) is an independent, nonpartisan, quasi-judicial regulatory agency with responsibility for administering the federal securities law. The purpose of this law is to protect investors in securities markets and to ensure that investors have access to disclosure of all material information concerning publicly traded securities. Information filed with the SEC, such as standard financial statements, is made available through the Electronic Data Gathering, Analysis, and Retrieval system (EDGAR). Reports available through the SEC do not contain detailed site-specific information, but they have firm-specific data that may be useful in the Section 316(b) economic analysis. EPA will use these data as a secondary source of firm specific data. However, the restriction to publicly traded companies, the lack of facility-specific financial, engineering, and environmental data, and the lack of unit level data limit the use of this data source for Section 316(b) regulatory development effort.

3(b) Public Notice Required Prior to ICR Submission to OMB

In compliance with the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), EPA published a notice in the *Federal Register* on December 12, 2002, announcing that EPA plans to submit a request for a three-year extension of the following Information Collection Request (ICR) for the Industry Detailed Questionnaire: Phase II Cooling Water Intake Structures, EPA ICR No. 1838.01, OMB # 2040-0213 expiration December 31, 2002. EPA is soliciting comments on specific aspects of the proposed information collection. A copy of the *Federal Register* notice is located in *Attachment 3*.

3(c) Consultations

The following paragraphs describe the specific outreach activities that EPA Staff performed during the Section 316(b) detailed questionnaire development period. These activities were intended to provide EPA with feedback on issues such as questionnaire format, terminology, and technical quality. All of the organizations with which EPA conducted outreach activities thought the process to be productive and beneficial to all parties involved.

In the past, EPA had conducted outreach with a variety of industrial groups, including American Iron and Steel Institute, American Iron and Steel Institute, American Petroleum Institute, Chemical Manufacturers Association, Chemical Manufacturers Association, Edison Electric Institute, Electric Power Research Institute. In conjunction with this ICR extension EPA has coordinated extensively with the International Association of Drilling Contractors. EPA believes that this early review and comment opportunity significantly improved the quality of the draft detailed questionnaires noticed in the *Federal Register* for public comment. Most of the organizations acknowledged EPA for incorporating many of their early suggestions into the draft detailed questionnaire. Table A3 provides a listing of the industry associations and professional organization representatives that participated in the EPA early outreach program:

Table A1. Industry Organization Representatives

Organization	Point of Contact	Phone Number
American Forest and Paper Association	Jerry Schwartz	(202) 463-2581
American Iron and Steel Institute	Bruce Steiner	(202) 452-7112
American Petroleum Institute	Roger Claff	(202) 682-8326
Chemical Manufacturers Association	Toni Wagner	(703) 741-5248
Utility Water Act Group	Kristy Bulleit	(202) 955-1547
Edison Electric Institute	Richard Bosak	(202) 508-5641
Electric Power Research Institute	Kent Zammit	(415) 855-2097
Electric Power Supply Association	Eugene Peters	(202) 789-7200
American Public Power Association	Theresa Pugh	(202) 467-2943
National Rural Electric Cooperative Association	Dick Sternberg	(703) 907-5824
International Association of Drilling Contractors	Allan Speckman	(281)578-7171
Alaska Seafood Marketing Institute	Randy Rice	800-478-2903
Glacier Fish Co., LLC	Mike Breivik	(206) 298-1200
Trident Seafoods	Earl Hubband	206-783-3818

In addition to the outreach activities with industry trade associations and related professional groups, EPA met with the environmental organization representatives listed in Table A5 in January of 1997 to discuss the information collection effort to date.

Table A2. Environmental Organization Representatives

Organization	Point of Contact	Phone Number
Hudson Riverkeepers	John Cronin/Theresa Hanczor	(914) 424-4149
New York/New Jersey Baykeeper	Andrew Willner	(908) 291-0176
Widener University School of Law (Delaware Baykeepers)	Jim May	(302) 477-2060
US Fish and Wildlife Service	David Sutherland	(410) 573-4535
Mineral Management Service	Kay Briggs	(703) 787-1646.

EPA contacted the National Resource Defense Council (NRDC), but they chose not to participate at this juncture in the process. The NRDC, however, did advertise the above January meeting on their environmental outreach network. The environmental groups were on the whole pleased with the Agency's information collection effort .

The Agency developed a web page to provide equal access to the latest status and information on the Section 316(b) project to all interested parties. For example, the web page contains all the quarterly status reports, screener questionnaire ICR package, draft screener and detailed questionnaires, the draft regulatory framework, and public meeting summaries and transcripts. The Section 316(b) web site may be viewed at http://www.epa.gov/waterscience/316b .

3(d) Effects of Less Frequent Collection

The cooling water intake structure detailed questionnaire survey effort is a one-time data collection activity. Therefore, this section is not applicable to this effort.

3(e) General Guidelines

The proposed data collection activity will be conducted in accordance with the Paperwork Reduction Act guidelines at 5 CFR 1320.5(d)(2).

3(f) Confidentiality

In accordance with 40 CFR Part 2, Subpart B, Section 2.203, the questionnaires inform respondents of their right to claim information as confidential. The survey provides instructions on the procedures for making Confidential Business Information (CBI) claims. The respondents are also informed of the terms and rules governing protection of CBI obtained under the CWA.

EPA and its contractors will follow EAD's existing CBI plan to protect data labeled as CBI. These plans include the following procedures:

- Ensure secure handling of completed detailed questionnaires that precludes access by unauthorized personnel.
- Store the completed questionnaires and databases in secured areas of EPA and the authorized contractors' offices, with access restricted to authorized EPA and contractor personnel only.
- Restrict any publication or dissemination of confidential study results or findings to aggregate statistics and coded listings. Individual respondents will not be identified in summary reports and the contractors will not release respondents' names to unauthorized individuals.

Each contractor that collects, processes, or stores CBI is responsible for ensuring the confidentiality of those data. The contractor shall safeguard the information as described in Section 2.211(d) of Subpart B and is obligated to use or disclose the information only as permitted by the contract under which the information is furnished.

3(g) Sensitive Questions

No sensitive questions pertaining to private or personal information, such as sexual behavior or religious beliefs, will be asked in the detailed questionnaires. Therefore, this section is not applicable.

4. The Respondents and the Information Requested

4(a) Respondents/SIC

EPA administered a screener questionnaire as the first phase of a two-phase data collection process. The screener questionnaire was sent to facilities identified in the sample frame to be steam electric nonutility power producers, both industrial self-generators and nonindustrial generators, and manufacturers that fell under the four other industrial categories: paper and allied products, chemical and allied products, petroleum and coal products, and primary metals. SIC Codes associated with the respondent categories of facilities that were surveyed are provided in Table A6. These categories of facilities were chosen based on their large use of cooling water (see Section 2(a)).

Table A3. Industry Categories and SIC Codes

Respondent Industry Categories	SIC Codes
Traditional Steam Electric Utilities	SIC codes 4911 and 493
Steam Electric Nonutility Power Producers	
Industrial Self-Generators	SIC Major Group 49
Nonindustrial	
Other Industries	
Paper and Allied Products	SIC codes 2611,2621, and 2631
Chemicals and Allied Products	SIC codes 28 except 2895, 2893, 2851, and 2879
Petroleum & Coal Products	SIC codes 2911
Primary Metals	SIC codes 3312, 3315, 3316, 3317, 3353, 3363, 3365, and 3366
Crude Petroleum & Natural Gas	SIC code 1311
Prepared Fish/Frozen Fish & Seafood	SIC code 2092

4(b) Information Requested

1. Data items, including recordkeeping requirements.

The detailed questionnaire survey and short technical survey efforts will not require any recordkeeping.

There are three questionnaires that will be distributed. They include:

- Detailed Industry Questionnaire: Phase III Cooling Water Intake Structures - Offshore and Coastal Oil and Gas Extraction
- Short Technical Industry Questionnaire: Phase III Cooling Water Intake Structures - Offshore Seafood Processors

- Detailed Industry Questionnaire: Phase III Cooling Water Intake Structures - Offshore and Coastal Oil and Gas Extractionb

Copies of the detailed industrial survey and short technical survey are located in *Attachment 4*.

Each of the two versions of the detailed questionnaires are the similar. The difference is that the seafood processors would receive scoping, technical, and economic parts, where as the oil and gas extractors would receive only the scoping and economic parts. The category-specific components of the detailed questionnaire summary will follow.

General Components for All Detailed Questionnaires

Certification Statement. Each questionnaire, once signed by a responsible corporate official or his or her authorized representative, confirms the authenticity and accuracy of questionnaire responses.

General Information and Instructions. Each package has a section with general instructions that discuss such topics as the purpose of the questionnaires, EPA's authority for conducting the survey, who must complete the questionnaire, where help can be obtained on questions, Certification Statement requirements, when and how questionnaires can be returned to EPA, and how responses can be claimed as containing confidential business information (CBI). Specific instructions for completing certain sections of the questionnaire are provided at the beginning of the section to which they pertain.

Glossary. Definitions of terms used in the questionnaire are contained in the Glossary that accompanies the document. Definitions of key terms are also provided in the questionnaire at the point at which the terms are first used. These definitions are intended for use ***only*** in combination with this questionnaire. These definitions are ***not*** regulatory definitions at this point

in time.

Components and Data Items for Traditional Steam Electric Utilities Detailed Questionnaire

Part 1. This Part requests general plant information, such as plant name, location, operating status, Standard Industrial Classification (SIC) codes, and National Pollutant Discharge Elimination System (NPDES) permit status. In addition, this part screens plants from the survey that may not use cooling water for contact or noncontact cooling purposes **or** are not directly withdrawing cooling water from surface water and, thus, are not subject to Section 316(b).

Part 2. This Part requests plant-level technical data. (*Offshore Seafood Processors only*)

- *Section A* requests profile information on the plant's cooling water systems, cooling water intake structures, cooling water discharge outfalls, and the plant's water balance diagram. Section A first requests basic design and operational data for each of the plant's cooling water systems that are presently operating, or temporarily offline. General profile data are then requested for the plant's intake structures that directly withdraw cooling water from surface water. The type of data requested for the cooling water structures includes the following: latitudes and longitudes, total design intake flows, proportion of total flows used for cooling, and activities for which cooling water was used in 2000. The information from this section will be related to other data requested throughout the questionnaire to give EPA an understanding of the plant's general design and use of cooling water. Finally, a water balance diagram is requested to provide EPA with an understanding of how cooling water use and discharge practices relate to the plant's general water use practices. The diagrams will be used to analyze other data requested throughout the survey.

- *Section B* requests information on the type of surface water sources being used by plants to provide cooling water. Depth of the water source at the withdrawal point is requested in addition to the average distance of the intake structure below the water surface. The section concludes by requesting information on whether the plant's intake structures are within 300 meters of sensitive aquatic ecological areas, if such information is known. The data from this section of the questionnaire will enable EPA to characterize the distribution of plants that have cooling water intake structures and the types of water bodies from which cooling

water is being withdrawn.

- *Section C* requests basic design and operating data about the technologies being used at cooling water intake structures. The questions are limited to those intake structures that directly withdraw cooling water from surface water. Information is also solicited on the design pass-through velocity at each intake structure. Average monthly cooling water intake flows are also requested for each intake structure.

- *Section D* requests information on the types of plant studies that may have conducted relative to Section 316(b). Basic data are requested for any Section 316(b) demonstration studies that may have been completed (i.e., studies to show that the location, design, construction, and capacity of a cooling water intake structure reflect BTA for minimizing adverse environmental impact). Information is also requested on any discrete biological or technology-related plant studies that have been conducted on impingement and entrainment. Through this section of the questionnaire, EPA is attempting to identify research that plants have already undertaken on Section 316(b)- related topics and the availability of study data. EPA would then selectively request these studies from facilities at a later date.

Part 3. This Part of the survey asks for economic and financial information about each plant and its steam-electric generating units. This part requests identifying and contact information, information on economic activities other than generation of electricity, and revenues and costs associated with the economic activities. This part also asks for three years of data on a plant-level financial balance sheet and operational information about the generating units. The Agency will use this information to assess the potential impacts of compliance with cooling water intake structure guidelines (under the authority of Section 316(b) of the Clean Water Act) on the economic viability of all affected plants and their steam-electric generating units.

Components and Data Items for Steam Electric Nonutility Power Producers and Manufacturers Detailed Questionnaires

Facility-Level Information. The technical information requested is essentially the same as for the traditional steam electric utilities. Ecomonic and financial data requested differs from and

is more detailed than the questionnaire for the traditional steam electric utilities. However, the data items are very similar between the questionnaires for steam electric nonutility power producers and manufacturers. Section A of Part 3, Economic and Financial Data, requests general facility information including information on the facility's fiscal year and years of financial data available. Section B requests identifying information on the facility's owners and previous owners. The nonutility questionnaire asks for information on the immediate owner of the facility, while the manufacturer questionnaire asks whether the facility was owned by another entity and if it was a domestic entity. Both questionnaires request income statement information (total revenues, costs, and after-tax income), full time employees, and total electricity sales for the domestic parent firm. Section C requests facility revenues and costs. The questionnaire for manufacturers allows the facility to report estimated dat a in lieu of actual data. The questionnaires request 3 years of facility income statement information. Section D requests facility balance sheet information. The manufacturer questionnaire has a Section E requesting facility liquidation values while the nonutility power producer questionnaire does not. Both questionnaires request miscellaneous facility information such as total facility employment and the rate of interest on the line of credit or short term debt. The nonutility power producer questionnaire requests information on economic activities other than electricity generation including revenues and costs. The manufacturer questionnaire requests information on the most significant sources of competition for domestic and international markets and percentage of non-electric revenue associated with the use of cooling water directly withdrawn from surface water. Both questionnaires have final sections on electricity generation and use information.

Data Items for the Short Technical Industry Questionnaire

This questionnaire requests minimal technical information from plants to determine who is potentially in-scope of the Phase II regulation and a sample of the in-scope facilities would then receive the detailed questionnaire. The questionnaire requests the following information: general plant information such as name, address, location and SIC codes; general scoping data

such as NPDES permit status, whether cooling water is used, and whether it is withdrawn from surface water; and plant design and operational data for cooling water intake structures and systems.

2. Respondent Activities.

Respondents must complete and return the detailed questionnaire and certification statements to EPA within 60 calendar days after receiving the materials. The Short Technical Industry Questionnaire is required to be returned within 30 days after receiving the materials. For the facility's convenience, EPA will enclose self-addressed envelopes in which to return their materials. For quantitative data, EPA requests actual data to the extent that they are available, but will accept good faith estimates when actual data are not available. In addition, in many questions, the respondent is able to respond that data is unavailable. This procedure alleviates the requirement for a facility to spend time and money for sampling if actual data do not exist. The Agency is requesting information that a typical facility maintains. Based on the pretest results, EPA expects respondents to have to engage in the following activities to complete and return to EPA the detailed questionnaires and Short Technical Industry Questionnaire:

- Review instructions
- Search data sources
- Type or write in the information requested
- Review the information provided (management)
- Mail the completed detailed questionnaires to EPA

5. The Information Collected - Agency Activities, Collection, Methodology and Information Management

5(a) Agency Activities

EAD project managers have planned for and allocated resources for the efficient and effective management of information collected related to cooling water intake structures. EPA conducted, or will conduct, the following activities in revising, administering, and analyzing the OMB approved detailed questionnaires for this ICR extension:

- Review other related Agency and government questionnaires.
- Develop cooling water intake structure detailed questionnaires.
- Meet with stakeholders providing comments on the draft detailed questionnaires.
- Notice availability of detailed questionnaires for public comment in the Federal Register.
- Revise the detailed questionnaires based on industry technical engineering design.
- Develop the response to comment document.
- Develop the sample frame consisting of three industry groups.
- Develop the mailing list database and mailing labels.
- Develop a tracking system for detailed questionnaires mailing and receipt activities.
- Print the detailed questionnaires.
- Mail the detailed questionnaires and short technical questionnaire to industry.
- Develop and maintain detailed questionnaires help lines for respondents.
- Maintain the questionnaire response tracking system.
- Receive and review (code) the returned questionnaires and follow-up to collect missing or incomplete information.
- Correct/clarify discrepancies
- Enter and verify data.
- Perform technical analyses and statistical summaries.
- Conduct CBI functions.

EPA used the screener questionnaire to determine which facilities are potentially within

scope of Section 316(b). EPA used the data received from facilities that are within scope to develop and stratify the sample frame for the subsequent detailed questionnaires and to develop the initial framework for the cooling water intake structure regulation.

5(b) Collection Methodology and Information Management

EPA's selection of new industrial categories for survey sampling was based on new information provided in public comments on EPA's Phase I" regulatory proposal for new power plants and industrial facilities made EPA aware of the use of cooling water by these facilities and prompted EPA to defer consideration of these categories until the Phase III rule. The offshore and coastal oil and gas extraction facilities and offshore seafood processing facilities would be most likely affected by extension of the data collection effort because EPA did not survey these industries during the original information collection request effort. EPA did not survey these industries because, at the time, EPA was not aware that these facilities used cooling water in volumes potentially subject to regulation under Section 316(b) of the CWA.

The targeted universe *(initial sample frame)* for the cooling water intake structure questionnaires is a population of Offshore and Coastal Oil and Gas Extraction facilities *and* a sample of industrial facilities in SIC Major Group 29 (based on the outcome of the short technical questionnaire). To minimize the burden on the respondents, EPA is allowing the respondents to complete the detailed questionnaires in legible handwriting or typewritten form. The questionnaires will be sent via a carrier that requires a signature to acknowledge receipt (i.e., registered mail). By sending the questionnaires using this procedure, EPA ensures that the designated facility receives the package and that an initial facility point-of-contact is identified.

Each questionnaire mailed to a facility will have a unique identification number. The facility identification numbers, in conjunction with an electronic tracking system, will be used to track the mailing date of the questionnaires, the date of any required follow-up letters or

telephone call to respondents, and the date EPA receives the completed survey. The identification number will also serve as an identification code for data entry in the survey database. EPA will make follow-up telephone calls to survey respondents on an as-needed basis.

Upon receipt of the completed questionnaires, EPA and EPA contractors will review the questionnaires and perform data entry of the responses. The coded questionnaire responses will then be entered into a database. All confidential business information will be treated according to CBI procedures established for EAD and its contractors.

A toll-free help line will be staffed during normal business hours during the response period to answer questions respondents may have on the questionnaires. The help line will be staffed with trained contractor personnel who will provide respondents with assistance in completing the questionnaires. The help line provides an immediate response to any inquiries which ultimately reduces the burden to the respondents. The help line will reduce misinterpretations of the detailed questionnaires and thus decrease the burden that EPA would create if the Agency had to call site personnel to clarify incorrect or inaccurate questionnaire answers.

The Agency considered creating electronic versions of the survey questionnaires. However, after careful analysis, EPA decided that electronic questionnaires would not be efficient for the following reasons:

- EPA could not be sure that the software at the respondent facilities would be comparable with the EPA software used to develop the questionnaires. Substantiating this view, one of the pretest facilities stated that the diversity of information systems makes it impractical to require electronic submission in a specified format.

- EPA developed the questionnaire using as many check box and closed-ended

questions as possible and made it easy to split sections among different facility departments.

- EPA determined that the expense of developing an electronic questionnaire (especially if both an electronic and hard copy version needed to be developed) was not cost effective because this is a one-time survey effort. Since this survey will not be reused, neither the respondents nor the EPA would derive any significant benefits from an electronic version of the questionnaire.

EPA confirmed through the pretest responses that the hard-copy questionnaire is a simple, direct means to collect data. None of the pretest respondents requested an electronic questionnaire and one respondent specifically requested that EPA not require that facilities respond only by electronic means. The feedback from pretest respondents indicates that the detailed questionnaires on the whole were well organized and easy to read and understand.

5(c) Small Entity Flexibility.

The majority of the businesses that EPA is targeting to receive the detailed questionnaires are not defined as small. The major reason EPA decided to administer a short technical questionnaire followed by the detailed questionnaire was to ultimately reduce the burden on facilities who are out-of-scope. EPA hypothesized that small entities have a greater probability to be out-of-scope than large facilities. Given this hypothesis, EPA designed the short technical questionnaire to allow facilities who are out-of-scope to exit the survey before having to invest time researching data. For those facilities that are in-scope, EPA requests a minimum of data to broadly characterize each industrial category and to develop a valid sample frame for the administration of the detailed questionnaires. EPA designed the short technical questionnaire to obtain basic cooling water use and operational data and associated economic data in order to reduce the number of facilities required to complete the detailed questionnaires. The detailed questionnaires contains on the average 40 questions. The screener questionnaire contained only 22 questions of which most are closed-ended questions. The burden of the detailed questionnaires is estimated at 56 hours for the Offshore Seafood Processors and 45 hours for

Offshore and Coastal Oil and Gas Extraction facilities. The short technical questionnaire

In addition to the overall reductions in the burden on survey recipients associated with the use of a screener questionnaire prior to administering a detailed questionnaire, EPA has taken the following steps to minimize the time and effort necessary for respondents to completed the detailed questionnaires:

- EPA has ensured that the instructions and questions are clear. This principle was validated during the pretest. All respondents reported that the instructions and questions were easy to read and understand. There were, however, one or two questions that caused some confusion. As a result, EPA worked with the pretest facilities to rewrite these questions. Common industry terms are used throughout the survey to make it more understandable to the respondents. Questions use yes-or-no or multiple choice formats wherever possible. Furthermore, the detailed questionnaires uses skip patterns to direct respondents to only those questions relevant to that facility.

- EPA has met with and discussed the draft detailed questionnaires with most of the effected industry trade association representatives with the objective to minimize the burden.

- As previously discussed, a help line will be operational during the survey period to answer respondents' technical questions.

5(d) Collection Schedule

The schedule for the detailed questionnaire distribution, response receipt, and data collection activities is as follows. Table A7 provides a list of the anticipated activities, durations, and the starting time frame in number of calender days after OMB completes their review of this package.

Table A4. Detailed Questionnaires Action Duration, and Starting Time frame

Action	Duration (Days)	Starting Time frame in Approximate Number of Calendar Days After OMB Approval
Detailed Questionnaires Printed and Mailed	28	28
Receive Detailed Questionnaires Responses	60	118
Detailed Questionnaires Survey Follow-up	120	298
Data Entry of Detailed Questionnaires Responses	120	418

6. Estimating Respondent Burden and Cost of Collection

The following section presents the rationale and results of EPA's estimation of burden and costs for the detailed questionnaire survey and watershed case study efforts. For this ICR extension, EPA has updated the labor rates used to calculate the burden estimates. EPA has also added burden estimates for the offshore oil and gas industry and the seafood industry.

6(a) Estimating Respondent Burden and Costs

EPA estimates that the detailed and the short technical industry questionnaire would require recipient facilities to devote time (i.e., as measured by staff man-hours) and resources (i.e., copies of documents and response mailings) to produce acceptable responses to the EPA questionnaires. EPA expects that engineers, engineering supervisors, accountants, and financial personnel, along with clerical staff, will devote time toward gathering and preparing the final responses. The costs to the respondents' facilities associated with these time commitments can be estimated by multiplying the time spent in each labor category by an appropriately loaded

hourly salary rate. Because labor rates vary so widely among the personnel involved in completing the detailed questionnaires, EPA generally uses an average loaded hourly rate which is representative of the average salary for the respondent industry(ies). The basis for the labor rate that will be used for purposes of this cost estimate is an average hourly rate for white-collar workers in the goods-producing manufacturing industries ($24.74 per hour).[1] These average hourly rates are published by the Bureau of Labor Statistics each year. Assuming a fringe rate of 50 percent and a 67 percent overhead and profit rate, the hourly rate for a private sector employee would be $61.97 [(24.74*(1.5))*1.67].

To develop burden cost estimates, EPA estimates the number of hours that would be required to complete all of the questions in the questionnaires (including reviewing instructions, researching data sources, typing or writing the information requested, reviewing responses, and returning survey) and then multiplied these results by $61.97 per hour to generate a cost estimate. EPA has based the estimates for burden associated with the revised detailed questionnaire and short technical questionnaire on the OMB approved ICR, taking into account the reduced burden from deleted questions. The average burden of the approved detailed questionnaire (EPA ICR No. 1838.01, OMB # 2040-0213, expiration December 31, 2002) was 156 hours and the average burden of the approved short technical questionnaire was 10 hours. However, EPA has significantly reduced the amount of data originally requested in the detailed questionnaire, therefore lowering the burden estimate to 56 hours for Offshore Seafood Processors and to 45 hours for Offshore and Coastal Oil and Gas Extraction facilities. Similarly, EPA deleted some questions in the Short Technical Industry Questionnaire, reducing the estimated burden required to complete the Short Technical Industry Questionnaire to 8 hours.

Operation and maintenance costs are estimated based on the one-time costs each respondent will incur in responding to the questionnaires. These costs are assumed to include the

[1] U.S. Department of Labor, Bureau of Labor Statistics. *Employer Costs for Employee Compensation - June2002*.

cost of copying and mailing each questionnaire. Using a rate of $.05 per impression, the average cost per respondent for copying the detailed questionnaires is $3.20 [$.05 * 65 impressions]. The average cost per respondent for copying the Short Technical Industry Questionnaire is $2.00 [$.05 * 40 impressions]. Mailing costs are estimated at approximately $3.00 for each detailed questionnaires and $2.00 each for the other questionnaires.

Table A5 presents an estimate of the total respondent burden and costs expected for completing the revised Industry Detailed Questionnaire and the Short Technical Industry Questionnaire. As shown in Table A5, EPA estimates that a total national respondent burden of 19,300 hours and a cost of $1,199,921 (current dollars) would be required to complete the revised questionnaires in the ICR extension. The average respondent costs for each detailed questionnaire is expected to be approximately $2,796 [$2,789 + $6.20] for oil and gas facilities and 3,477 [$3,470 + $6.20] for seafood processing facilities. The average respondent costs for the short technical questionnaire is $499 [$620+$3.00].

Table A5. Estimating Respondent Costs to Complete Revised Questionnaires

Questionnaire	Total Number of Respondents	Average Burden Per Respondent (in hours)	Total Burden (in hours)	Average Labor Costs[a] Per Respondent (in dollars)	Total Labor Costs[a] (in dollars)	Average O&M Costs Per Respondent (in dollars)	Total O&M Costs (in dollars)	Total Costs (in dollars)
Detailed: Offshore	100	45	4500	$2,789	$278,865	$6.00	600	**$279,465**
Detailed: Seafood	150	56	8400	$3,470	$520,548	$6.00	900	**$521,448**
Short Tech: Seafood	800	8	6400	$496	$396,608	$3.00	2400	**$399,008**
Total	**1,050**		**19,300**	**$6,755**	**$1,196,021**		**$3,900**	**$1,199,921**

[a] Costs assume an average aggregate labor rate of $61.97 per hour.

Table A6 presents the total respondent burden and costs estimated for the original approved ICR (EPA ICR No. 1838.01, OMB # 2040-0213, expiration December 31, 2002) in December 1999 for completing the Industry Detailed Questionnaire, the Short Technical Industry Questionnaire, and the Watershed Case Study Questionnaire. As shown in Table A6, EPA estimated that a total national respondent burden of 128,763 hours and a cost of $6,924,183

(1999 dollars) would be required to complete the questionnaires.

Table A6. Estimating Respondent Costs to Complete OMB approved Questionnaires

Questionnaire	Total Number of Respondents	Average Burden Per Respondent (in hours)	Total Burden (in hours)	Average Labor Costs[a] Per Respondent (in dollars)	Total Labor Costs[a] (in dollars)	Average O&M Costs Per Respondent (in dollars)	Total O&M Costs (in dollars)	Total Costs (in dollars)
Detailed	756	156	117936	$8,374	$6,330,804	$13.75	10395	**$6,341,199**
Short Tech. Industry/ Supplemental and Voluntary	730	10	7300	$537	$391,864	$3.00	2190	**$394,054**
Watershed Case Study Short	350	10	3500	$537	$187,880	$3.00	1050	**$188,930**
Total	**1,836**		**128,736**	**$9,448**	**$6,910,548**		**$13,635**	**$6,924,183**

***** Costs assume an average aggregate rate of $53.68 per hour.

The average operation and maintenance costs were greater for the 1999 approve detailed questionnaire than the estimated costs for the 2002 revised detailed questionnaire because the 1999 version contained more pages for the respondent to copy. The 2002 revised detailed questionnaire is less than half the size of the 1999 approved detailed questionnaire. Also the average labor cost per respondent in Table A6 reflects the July 1998 Bureau of Labor Statistics average hourly rate for white-collar workers in goods-producing manufacturing industries ($21.43 per hour), where as Table A5 reflects the June 2002 average hourly rate ($24.74). Therefore, assuming a fringe rate of 50 percent and a 67 percent overhead and profit rate, the hourly rate for a private sector employee reflected in the 1999 approved detailed questionnaire was $53.68 [(21.43*(1.5))*1.67].

In the execution of the approved ICR, EPA never used any of its burden allocation for the watershed case study survey. Therefore, EPA has 3,500 unused hours and $188,930 unused costs from the original approved detailed questionnaires.

6(b) Estimating Agency Burden and Costs

Table A7 provides an estimate of the federal labor costs associated with the development and implementation of the revised detailed questionnaire and the short technical survey efforts. In developing these costs, EPA assumed that the activities associated with the detailed questionnaires, the Short Technical Industry Questionnaire, and the Watershed Case Study Short Questionnaire would require the efforts of two Agency employees with an average salary equivalent to a GS 14 step 2 at a rate of approximately $34.76 per hour. The average hourly rate is based on hourly rates found in the Office of Personnel Management 2002 General Schedule. To get the total costs for Agency personnel, the average hourly rate was increased by 60 percent to account for overhead costs.

Assuming that one man-year equals 2,080 hours, EPA estimates that four Agency employee will spend approximately one (1) man-year (or 2,080 hours) developing, administering, and reviewing the questionnaires. The Agency employee estimated total labor costs are expected to be $115,690. The hourly burden and costs for Agency personnel to develop and administer the detailed questionnaires is based on hours and costs expended to date and on previous experience in administering similar surveys for the purposes of developing effluent limitations guidelines and standards.

Table A7. Estimated Federal Employee Costs

Approximate Average GS-Level	Average Labor Rate (in dollars)	Loaded Rate (in dollars)	Labor hours	Total Costs (in dollars)
GS 14 step 2	$34.76	$55.62	2,080	$115,690

In addition to the Agency employees, contractor personnel at various professional and technical levels are also expected to spend time developing and reviewing the questionnaires, mailing surveys, performing data-entry tasks, and analyzing the responses. The contractor burden hours are estimated at a composite rate of approximately $63 per hour. The hourly burden attributed to contractors is expected to be approximately 19,578 hours. Total combined hourly burden with both contractor and EPA staff totals are approximately 21,658 hours. Table A8 identifies tasks performed by both EPA personnel and contractors and the associated hours expected to be required for each task.

Table A9 presents all costs expected to be incurred by the Agency in administering the detailed questionnaire and the watershed case study survey efforts. Total costs associated with contractor support are expected to be $1,223,414. Mailing, printing, and copying costs are estimated to be $34,580. As with the costs for the Agency employees, costs associated with contractor hours and costs to develop and administer the detailed questionnaires and the Short Technical Industry Questionnaire are based on hours and costs expended to date and on previous experience in administering similar surveys for the purposes of developing effluent limitations guidelines and standards.

Summing all of the costs, the total burden to the government will be $1,373,684. This estimate includes the tasks detailed in Table A4 above, including performing preliminary technical and economic analyses. However, it does not include costs for developing regulatory options or documentation.

Table A8 Estimated Agency Burden (Including Both EPA and Contractor Staff Hours)

Agency and Contractor Tasks	Estimated Burden Hours
Research and Develop Sample Frames/Mailing Lists; Design and Develop Detailed Questionnaire; Prepare Public Notice; Conduct Pretest; and Review and Respond to All Comments.	10,552
Develop and Maintain Tracking System and CBI Procedures.	774
Mail Detailed Surveys and Perform Follow-up Activities Related to Mailing and Receipt of Detailed Questionnaire using US Mail and Post Card Alert.	150
Perform Data Entry of Detailed Questionnaires.	810
Set-up and Operate Help lines; Review Responses on Detailed Questionnaires; and Perform Follow-up Activities Associated with Discrepancies in Responses.	8,912
Preliminary Engineering and Statistical Analyses.	460
TOTAL	21,658

Table A9. Breakdown of Costs to Government in Administering Survey

Cost Category	Total Cost to Agency (in dollars)
EPA Personnel	$115,690
Contractor Support	$1,223,414
Mailing, Printing, Copying	$34,580
Total	**$1,373,684**

6(c) Bottom Line Burden Hours and Costs

By combining the burden hours and costs to the respondents and the burden hour and costs to the government, EPA estimates that the total burden hours would be 40,958 hours and the total cost of administering the revised Industry Detailed Questionnaire and the Short Technical Industry Questionnaire, and would be $2,573,605.

Table A10. Total Estimated Bottom Line Burden and Cost Summary

	Total Burden (in hours)	Total Costs (in dollars)
Respondents	19,300	$1,199,921
Agency/Contractor	21,658	$1,373,684
Total Costs	**40,958**	**$2,573,605**

6(d) Reasons For Change In Burden

The change in Burden is actually 37,448 hours (40,948 new hours - 3,500 1999 unused hours) and $2,384,675 ($2,573,605 new costs - $188,930 1999 unused costs). EPA did not survey offshore and coastal oil and gas extraction facilities and offshore seafood processing facilities during the original information collection (EPA ICR No. 1838.01, OMB # 2040-0213 expiration December 31, 2002). EPA did not survey these industries because, at the time, EPA was not

aware that these facilities used cooling water in volumes potentially subject to regulation under Section 316(b) of the CWA. Information provided in public comments on EPA's "Phase I" regulatory proposal for new power plants and industrial facilities made EPA aware of the use of cooling water by these facilities and prompted EPA to defer consideration of these categories until the Phase III rule. The detailed questionnaires and the Short Technical Industry Questionnaire would be a one-time data collection activity.

6(e) Burden Statement

The public reporting and record keeping burden for the collection of information using the detailed questionnaires is estimated to average 45 to 56 hours per response. The public reporting and recordkeeping is 45 hours per response for offshore oil and gas and 56 hours per response for seafood (i.e., a total of 12,900 hours of burden divided among 250 respondents). The burden is less for offshore and seafood, because EPA has other sources of information available. The public reporting and record keeping burden for the collection of information using the Short Technical Industry Questionnaire is estimated to average 8 hours per response. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Comments may be sent electronically, by mail, or through hand delivery/courier.

When submitting Electronic comment as prescribed below, EPA recommends that you include your name, mailing address, and an e-mail address or other contact information in the body of your comment. Also include this contact information on the outside of any disk or CD ROM you submit, and in any cover letter accompanying the disk or CD ROM.

E-mail. Comments may be sent by electronic mail (e-mail) to rule.316b@epa.gov, Attention EPA ICR No. 1838.01. EPA's e-mail system is not an "anonymous access" system; EPA's e-mail system automatically captures your e-mail address. E-mail addresses that are automatically captured by EPA's e-mail system are included as part of the comment that is placed in the official public docket, and made available in EPA's electronic public docket.

Disk or CD ROM**.** You may submit comments on a disk or CD ROM that you mail to the mailing address identified below. These electronic submissions will be accepted in WordPerfect. Avoid the use of special characters and any form of encryption.

Mail comments to Ms. Deborah G. Nagle**,** U.S. EPA, Engineering and Analysis Division (4303T), 1200 Pennsylvania Ave., NW, Washington, DC, 20460, Attention EPA ICR No. 1838.01.

Hand delivered comments should be sent to Ms. Deborah G. Nagle**,** U.S. EPA, Engineering and Analysis Division (Room 6233N), 1301 Constitution Ave., NW, Washington, DC, 20004, Attention EPA ICR No. 1838.01.

PART B OF THE SUPPORTING STATEMENT

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1. Survey Objectives, Key Variables, and Other Preliminaries

1(a) Survey Objectives

The detailed and short technical questionnaire survey effort will provide information essential to establishing a need for and developing, as necessary, proposed regulations under Section 316(b). Questionnaire data is essential for characterizing the industry-specific (Offshore and Coastal Oil and Gas Extraction and Offshore Seafood Processors) status of cooling water intake location, design, construction, and capacity, for assessing the financial status of plants and firms potentially affected by a Section 316(b) proposed regulation, and for identifying existing Section 316(b) studies addressing potential for adverse environmental impacts.

1(b) Key Variables

For a discussion of key variables, please refer to Part A, Section 4(b) of this ICR.

1(c) Statistical Approach

The objectives of the detailed questionnaire information collection effort can be achieved by a sample survey at considerably lower cost and burden (to EPA and respondents) than would be required for a census. A statistically designed sample survey is necessary to achieve the objectives, in particular, to ensure that the resulting inferences and analyses are as statistically unbiased and as precise as is practicable. The design can be characterized as a two-phase design (with screener and detailed questionnaire phases), using stratification in both phases. This design will be applied to Offshore and Coastal Oil and Gas Extraction and Offshore Seafood Processing facilities.

The survey activities will be conducted by two EPA contractors. WESTAT, under a contract monitored by the Engineering Analysis Division of EPA's Office of Science and

Technology will provide technical support for sample frame development and validation; data entry; design and quality assurance (QA) review of survey response database; and statistical analysis and reporting of questionnaire responses. WESTAT is located at 1650 Research Boulevard, Rockville, Maryland 20850. Science Applications International Corporation (SAIC) will provide technical support for questionnaire design, collation, and mail-out; set-up and operation of a help line; follow-up and QA of responses; development and maintenance of survey tracking systems; and analysis of survey data under a Tetra Tech, Inc. contract monitored by the Engineering Analysis Division of EPA's Office of Science and Technology. SAIC is located at 11251 Roger Bacon Drive, Reston, VA 20190.

Development of economic and financial related questions; operation of a help line; and economic and financial analyses of detailed questionnaire data will be provided by Abt Associates Inc., located at 55 Wheeler Street, Cambridge MA 02138-1168. This support will be provided under EPA Contract monitored by the Engineering Analysis Division of EPA's Office of Science and Technology.

1(d) Feasibility

The detailed questionnaire and the short technical questionnaire survey efforts will be conducted under the authority of Section 308 of the Clean Water Act (33 U.S.C. 1318). Questionnaires will be mailed to Offshore and Coastal Oil and Gas Extraction and Offshore Seafood Processing facilities.

The detailed questionnaire , and the Short Technical Industry are reduced versions of the original approved questionnaires (EPA ICR No. 1838.01, OMB # 2040-0213) and therefore are tested surveys. A toll-free telephone help line will be provided by contractors while the questionnaires are in the field. Respondents are provided information regarding these help lines in the General Information and Instructions sections of the questionnaire.

Funding and scheduling for this project have been compared to previous and ongoing EPA effluent guideline projects. They have been judged to be sufficient given project objectives.

The collection schedule (*see Section 5(d) in Part A of this ICR*) accounts for the events and response times leading up to final analysis of survey data. This project will involve the design of analyses, computer programs, and report formats in advance of data entry of questionnaire responses. This approach will ensure that key results are reported promptly once data entry and data quality checks are finished. Completion of these tasks will require planning and coordination among the contractors for statistical, technical, and financial analyses. It will also require that the survey database be designed (and a mock-up of the database be completed) well before data entry begins so that analytical programs can be tested.

2. Survey Design

Two populations of facilities are identified in Section 2(a) below as potentially subject to CWA Section 316(b): Offshore and Coastal Oil and Gas Extraction (SIC code 1311) and Offshore Seafood Processors (SIC code 2092). The short technical survey (see Section 2(b) below) will be used to reduce the *estimated* population of the Offshore Seafood Processors. EPA intends to *sample* 800 Offshore Seafood Processors, to achieve precision targets set out in Section 2(c) below (Note: this is the sample size for detailed questionnaires for this categories). It is expected that up to 150 of these facilities will be chosen to receive a detailed questionnaire. Samples will be stratified using a number of variables related to costs of regulatory options.

A group of up to 100 firms that own Offshore Oil and Gas Extraction facilities will receive a copy of the detailed questionnaire. As discussed previously, these case studies will be used for the cost and benefits analysis, to test regulatory options, and to evaluate cumulative impacts.

2(a) Target Population and Coverage

Section 316(b) of the Clean Water Act (CWA) provides that any standard established pursuant to Sections 301 or 306 of the CWA and applicable to a point source require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. Given this language, industries covered by effluent guidelines (CWA Sections 301 and 306) contain, as a subpopulation, facilities to be covered by a Section 316(b) rule. This subpopulation contains a large number of industrial categories and facilities, not all of which are point sources under the CWA or use substantial amounts of cooling water.

Initial estimates of potential numbers of facilities (Table B1), are based on research efforts conducted through trade associations. EPA intends to mail a short technical questionnaire to large sample of identified Offshore Seafood Processors and then mail a detail questionnaire to a sample of the in-scope facilities. EPA does not intend to mail a short technical questionnaire facilities in the Offshore and Coastal Oil and Gas Extraction category because the number and in-scope status of these facilities is known from public sources.

Table B1. Potential Number of offshore and Coastal Oil and Gas and Offshore Seafood Processing Facilities

(SIC Code) and Industrial Category[1]	
(13) Crude Petroleum & Natural Gas	200
(20) Prepared Fish/Frozen Fish & Seafood	12,000

Table B2. Targeted Industrial Categories and Intended Allocation of Questionnaires

Category and (SIC Code)	No. Of In-Scope Facilities in Sample Frame	Short Technical Questionnaire	Detailed Questionnaire
(13) Crude Petroleum & Natural Gas	200	0	100
(20) Prepared Fish/Frozen Fish & Seafood	12,000	800	150
Totals	**12,200**	**800**	**250**

The short technical questionnaire survey will be used to estimate the numbers of "in-scope" facilities (those potentially subject to proposed Phase III regulations under Section 316(b)).

Planned sample sizes for the number of detailed questionnaires being sent to other industry are based upon precision targets, with an expectation (based on experience with the screener questionnaire administered in 1998) that 20% of plants will not respond in time for EPA to use the data. This leads to a recommendation to census the other industry category. Planned sample sizes for the number of detailed questionnaires being sent to traditional steam electric utility plants are based upon the precision targets of section 2(c).

2(b) Sampling Design

The detailed questionnaire survey effort sampling design will be a stratified random probability sample. The overall design is that of a two-phase (double) sample, the screener questionnaire being the first phase, and the detailed questionnaire the second phase. Screener questionnaire responses will be used to provide (1) estimates of stratum population sizes (number of facilities), and estimates of within-population variances for some key characteristics, (2) information used to refine choices of strata, and (3) a frame for the detailed questionnaire with facility addresses and strata identified. In preparation for the detailed questionnaire survey, screener questionnaires were mailed to a sample of 2,600 of the 5,615 identified facilities. The

disposition of those screeners was described above.

Answers to questions on the short technical questionnaire would identified differences among facilities in terms of their size, their water sources, and intake flow rates. Such information will be used to stratify the sample of facilities to receive the detailed questionnaires. Stratification is described under Sections 3 and 4, below.

1. Survey Design for Offshore and Coastal Oil and Gas Extraction Category

A sample at the firm level (Detailed Questionnaire for Offshore and Coastal Oil and Gas Extraction). EPA has acquired current industry surveys and commercial databases that identify offshore and coastal oil and gas extraction facilities in the Gulf of Alaska, California, and the Gulf of Mexico. Preliminary information indicates that there are about 200 offshore oil and gas platforms and mobile drilling units that are potentially subject to the Phase III regulation. Approximately 100 businesses own these platforms and mobile drilling units. The financial/economic portion of the detailed questionnaire will provide the information necessary to assess economic impacts at the firm level and the facility level.

2. Survey Design for Offshore Seafood Processor Category

A sample at the facility level (Short Technical and Detailed Questionnaire for Offshore Seafood Processors). The survey design for the Offshore Seafood Processors would include a sample at the facility level (Detailed Industry Questionnaire). Based on publicly available information collected on seafood processing vessels approximately 12,000 vessels are potentially subject to the proposed Phase III regulation. EPA intends to sample 800 of these vessels with the short technical survey. Based on the responses to the short technical survey, EPA will determine the in-scope sample size and will send the detailed survey to a per portion of the in-scope sample. The technical portion of the detailed questionnaire will be used to derive an accurate estimate of compliance costs for the sample of facilities. The financial/economic portion of the questionnaire will provide the information necessary to assess economic impacts at the firm level and the facility level.

3. Sampling Frames

As noted above offshore and coastal oil and gas extraction facilities and offshore seafood processing facilities would be most likely affected by extension of the data collection effort because EPA did not survey these industries during the original information collection request effort. EPA did not survey these industries because, at the time, EPA was not aware that these facilities used cooling water in volumes potentially subject to regulation under Section 316(b) of the CWA. Information provided in public comments on EPA's "Phase I" regulatory proposal for new power plants and industrial facilities made EPA aware of the use of cooling water by these facilities and prompted EPA to defer consideration of these categories until the Phase III rule.

SIC Major Group 13: Crude Petroleum & Natural Gas. The sample frame for Offshore and Coastal Oil and Gas Extraction was based upon a current industry surveys and commercial databases that identify offshore and coastal oil and gas extraction facilities in the Gulf of Alaska, California, and the Gulf of Mexico.

SIC Major Group 20: Prepared Fish/Frozen Fish & Seafood. The sample frame for Offshore Seafood Processors was based upon a phone search of applicable seafood firms.

4. Sample Sizes and Their Allocation

Required sample sizes are based upon precision targets discussed below (Section 2(c), Precision and Sample Size Requirements) and the need to understand costs, benefits, and financial impacts comprehensively in the industry categories (as described above). These considerations require sampling about 250 plants and facilities (see Table B2) using the two different detailed questionnaires. Approximately 800 facilities will be surveyed Short Technical Industry Questionnaire survey instrument.

Allocation of questionnaires among industrial categories (primary strata) and the secondary strata identified below (business size, waterbody type, and cooling water intake) will be made in proportion to (a) number of plants (population size) in each stratum and (b) an estimate of variability within each stratum. (see Cochran, WG, 1977, Sampling Techniques (3rd ed.), Ch 5.5, "Optimum Allocation"). This allocation may be modified to insure a minimum sample within certain subcategories.

Within-stratum population sizes can be estimated using responses to the short technical questionnaire "scoping" questions. Within-stratum standard deviations can be estimated using variances of surrogate variables that are related to many of the important calculated quantities for the survey, including costs and benefits. These variables are: annual cooling water intake flow, annual electricity generation using cooling water obtained from surface waters, and design cooling water intake.

5. Stratification Variables

Stratification serves two essential purposes. It increases precision (reducing one source of uncertainty) for estimates of costs, benefits, and other quantities. It also enables one to more accurately match cost and benefit calculations, and regulatory options to the circumstances that influence these calculations. In addition, it will allow an analysis of the suitability of each option (e.g., facility age, equipment, and finances; intake and cooling technologies in place; the environmental source of cooling water; the location and capacity of the cooling water intake structures).

Strata for the detailed questionnaire survey sample will consist of two industrial categories referred to here as the primary strata. Additional strata will be determined from responses to the screener questionnaire and will include differences among facilities in terms of their size, their intake water sources, and intake flow rates. These are referred to here as the secondary strata. Stratification for the detailed questionnaire survey effort will combine these,

nesting the secondary within the primary strata.

The term "stratification" is being used in two senses for the detailed questionnaire survey effort. First, for sampling design, survey strata will be used to increase precision and to discriminate classes of facilities expected to differ in costs and benefits. Only survey strata are addressed particularly here. Secondly, for financial and technical analyses, even more "strata" (classes) of facilities will be examined to determine if regulatory distinctions can be made amongst these classes, to discriminate classes of facilities differing in costs and benefits. Some questions in the screener and detailed questionnaires are intended to provide candidate variables for the classification of facilities and, more generally, to provide candidate predictor variates (for use in categorical and regression analysis) that may help EPA determine more precisely and accurately the costs and benefits of a proposed regulation in specific situations as well as in the aggregate.

Strata will be based on (1) Small Business Administration business size cut-off values, (2) cooling water intake flow rates, (3) source of cooling water, (4) type of cooling water system, (5) cooling water intake configuration, (6) cooling water intake technology employed, and (7) North American Electric Reliability Council (NERC) region. Each stratification variable will be grouped into two or more classes using expert judgement and technical information. The choice of classes is not critical to the benefits of stratification, and experts recommend more rather than fewer strata and classes. The value or level of each of these stratification variables is expected to affect costs, benefits, assessments of potential adverse impacts and best technology options, and appropriate regulatory options.

6. Sampling Methods

The sample for the detailed questionnaire survey effort will be a randomized probability sample with stratification and allocation as described above. The sample unit for the survey is the plant or facility. Firms are not used as a basis for sampling for several reasons: (1) The

conditions subjecting a plant or facility to regulation under Section 316(b) are intrinsic to the plant or facility and its site ; (2) the attributes which affect potential for adverse impacts, best available technology, and costs of regulatory options are all intrinsic to a plant and its site; (3) available information for sample frames identify plants, but not always owner firms (owner firms are identified for steam electric utility plants but not for steam electric nonutility power producers or other industries); and (4) plants are enduring structures with fixed locations while owner firms may easily have changed since the frame was developed.

In drawing a sample, EPA will also use systematic sampling within strata and subcategories. Systematic sampling will result in more uniformly proportional coverage of NERC Regions, and States. To draw a systematic sample, facilities within each stratum will be grouped by industrial subcategory and geographic region. At each grouping level, the sequence of groups (e.g., Regions within each industrial subcategory) will be randomized within the next higher level of grouping. Then every k-th plant in the list will be sampled. Systematic sampling is not strictly random, and much has been written about its limitations and benefits (Cochran, WG, 1977, Sampling Techniques, 3rd ed., Wiley; Kish, L, 1965, Survey Sampling, Wiley). However, it is very widely used in large surveys. In a sample that does not consist of spatially or temporally ordered units, there are no important objections to systematic sampling in a survey similar to that proposed here.

7. Multi-Stage Sampling

There is no plan to use multi-stage (cluster) sampling for this survey effort.

2(c) Precision and Sample Size Requirements

1. Precision Targets and Sample Size Requirements

The sample sizes set out in Table B2 and Table B3 will allow EPA to meet the two

precision targets described below and to meet precision requirements for SBREFA analysis described in the last paragraph of this section.

The precision targets used here are:

- For costs and benefits analysis:

  - To estimate a population proportion to within ± 0.05 (95 percent confidence interval)
  - To estimate a population mean or total with a coefficient of variation (CV) of 0.05

The second target applies to a continuous measurement (e.g., revenue, cost, flow), and implies a 95% confidence interval of plus or minus 10 percent of the estimated value. The CV for some important quantities is known to be large. For steam electric utilities' plants, some key variables (nameplate capacity, design cooling water intake flow, and annual electricity generation) appear to have lognormal or similar distributions and have CVs of 1-2 (based on the EEI Power Statistics database for 1994).

- For SBREFA analysis:

  - To estimate 20 % of firms to within ± 5% with 95% confidence
  - To estimate 100 firms to within ± 10 with 95% confidence

The sample sizes required to meet these precision targets are shown in Tables B4 and B5. These tables apply to any population subject to simple random sampling (somewhat better precision may be achieved by the stratified sampling plan that EPA will employ). These tables are interpreted and applied to the Section 316(b) populations in the text below; the resulting sample sizes chosen by EPA are shown in Table B7.

EPA applied these goals separately to each of the two major industrial categories (traditional steam electric utilities, nonutility power producers, and other industries), anticipating

the need to determine values specific to each category. These industrial categories are expected to differ in many characteristics affecting costs, benefits, and the small business impacts of regulatory options.

The precision targets are intended to address precision for a mean or total for the entire population within each of the three major industrial categories. Estimates for subcategories will necessarily be less precise. Precision of our survey for national totals could be better than calculated here because we will use stratified, systematic sampling. However, the precision targets address only sampling error. Reported or measured quantities are also be subject to non-sampling errors (imprecision and inaccuracy).

Selecting the number of detailed questionnaires to send to each stratum (i.e., sample allocation) was discussed above under 2(b)(V), "Sampling Methods," and under 2(b)(III), "Sample Sizes and Their Allocation." Allocation will be designed to maximize precision, given the total number of questionnaires allowed.

EPA also considered precision targets and sample sizes for the number of owner firms, based on Agency SBREFA guidance. A SBREFA analysis considers the number and percent of small firms experiencing a specified regulatory cost burden (1%, 3%, and 5% of revenues). Significant levels in this context are 100 firms and 20 % of firms. The column in Table B4 under P = 0.20 shows the sample sizes required to estimate 20 % of firms within ± 5 %. We also considered the error in estimating the number of firms affected when the true number is 100. To achieve a 95% confidence interval of ± 10 firms, when the total population sampled (large & small businesses) is 200, 500, 1000, or 2000, a sample size of about 132, 377, 776, and 1570 (respectively) would be required. The number of traditional steam electric utilities (firms) having in-scope plants is 319. Firms that have in-scope facilities may be 363 or less among steam electric nonutility power producers and 616 or less among other industries (see Table B3). Interpolation in Table B4 indicates that sample sizes of 195, 147, and 176, respectively, are needed to meet the "20% of firms" target, and sample sizes of 232, 265, and 472, respectively,

will meet the "± 10 firms" target. Revenues will be available for all firms (from the screener questionnaires and public sources), and costs can be estimated for all, as described above.

The sample sizes required to achieve various precision targets for the Section 316(b) populations, discussed above, are collected in Table B7. Some precision targets will not be achieved by the chosen sample sizes because the identified numbers of respondents to the screener questionnaire was smaller than the recommended sample size. Also, in it is not likely that the precision target will be achieved if the CV of observations is 2; however, 2 is an unusually high value for population CV.

Table B3. Sample Size Required in Simple Random Sampling for Population Proportion to Have a 95 Percent Confidence Interval (CI) with Margin of Error Equal to 0.05

Sample size (approximate) required to estimate P to within ± 0.05				
Population Size N	**Population Proportion P**			
	0.05	0.10	0.20	0.50
200	53	82	110	132
500	64	108	165	217
1000	68	122	197	278
2000	70	129	219	322

The sample sizes for estimating the number of firms are not shown in this Table. They follow from the sample sizes above for proportions, because the standard deviation for the estimated number of firms equals that for the corresponding proportion multiplied by "N." A subpopulation of 100 is less easily estimated with precision when it is a smaller fraction of the population. This is reflected in Table B4, which shows implicitly that a subpopulation that is a small fraction of a population is estimated with a large relative error.

Table B4. Sample Size Required in Simple Random Sampling, for the Population Mean or Total to Have a Coefficient of Variation Equal to 0.05

Sample size (approximate) required to estimate population mean or total with CV of 0.05			
	Population Coefficient of Variation (CV)		
Population Size N	0.5	1.0	2.0
200	67	133	178
500	82	222	381
1000	91	286	615
2000	95	333	889

Table B5. Sample Sizes Required for Various Precision Targets, and Sample Size Chosen

Population	Plants in Population estimated (identified)	Sample of Plants for 50% ± 5% target	Sample of Plants for CV = 0.05 target	Sample of Firms for CI of ± 10 target	Sample of Firms for 20% ± 5% target	Sample Size Chosen
Oil and Gas Extracion	200 (200)	TBD	TBD	TBD	TBD	TBD
Seafood Processor	12,000 (TBD)	TBD	TBD	TBD	TBD	TBD

2. Nonsampling Errors

Costing and financial calculations entail unknown (or unquantified) errors — bias and imprecision. If these errors were quantified, they could be considered in the sample size calculations. It is important to note that such errors have not been (apparently, could not be) quantified in past effluent guideline development efforts. Thus, *only* sampling error has been estimated and reported in the record for past guidelines. This continues to apply to the present Section 316(b) effort.

Nonresponse is relatively low for questionnaires sent under the authority of Section 308 of the Clean Water Act. EPA will employ several measures to reduce nonresponses. The cover letter and instructions for the questionnaires will explain the legal authority, responsibility to respond, reasons for the survey, and penalty for nonresponse. Delivery or nondelivery of the questionnaires will be tracked using certified mail. A help line will be operated while the questionnaires are in the field so that technical, financial and administrative questions regarding the survey can be addressed. Recipients not responding by the questionnaire deadline date may be telephoned to encourage response, to answer questions, and to determine the reasons for the nonresponse.

Inaccurate or incomplete responses can occur due to misunderstandings or the misinterpretation of questions and the unintentional skipping of questions by respondents. Errors can occur when responses are coded, edited and entered into the database. The design and implementation of the detailed questionnaires will employ a number of quality assurance techniques to reduce the frequency of such errors. These techniques include the following:

- Review of questions for ambiguity and clarity
- Use of an easily-followed sequence of questions and stopping points
- Avoidance of questions requiring an open-ended response
- Provision of a limited number of carefully considered responses to each question
- Provision of clear definitions of units of measurement and of technical terms
- Provision of clear instructions with references to the definitions
- Provision of a "help line" with a toll-free number to assist respondents
- Review of questions by engineers, scientists, and economists who will telephone respondents to obtain missing information and resolve problems and inconsistencies
- Use of double-entry keypunch verification on all questionnaires

- Conduct of computerized comparison of selected responses to detect inconsistencies and illogical responses
- Conduct of computerized analyses to screen for out-of-range and inconsistent numerical values
- Conduct of computerized analyses to detect missing numerical data and missing units

2(d) Questionnaire Design

The questionnaires have been designed to group requests for related technical data into matrices. The purpose of the matrices is to help respondents see the relationship of some of the information being requested that might otherwise be overlooked if it were requested in a linear format. Generally, the matrices request respondents to categorize aspects of the design or operation of their facility by checking applicable pre-coded responses. EPA has conducted substantial background research prior to the development of these questionnaires that suggests that the precoded responses are appropriate. Moreover, results of the pretest described earlier and below support these categorizations. Finally, where actual numeric data are requested (e.g., intake flow rates), responses are requested on a fill-in-the-blank basis. Where possible, close-ended questions have been used, to reduce the burden to the respondents and to aid in eliminating misinterpretation of the responses. Where appropriate, EPA allows elaboration of a facility's unique circumstances under the "Other" response option.

To further aid respondents in completing the questionnaires, key terms have been highlighted in the questions, and definitions have been provided at the point of first reference. Finally, a glossaries are also provided with the questionnaires.

3. Pretests and Pilot Tests

No pretests or pilot tests were conducted on the revised surveys, since they are similar to the original approved questionnaires. The only difference is that in the revised surveys, questions have been deleted from the original version. The survey design is the same.

4. Collection Methods and Follow-up

4(a) Collection Methods

Please refer to Section 5(b), Part A of this ICR for information on this topic.

4(b) Survey Response and Follow-Up

Please refer to Section 5(b), Part A of this ICR for information on this topic.

5. Analyzing and Reporting Survey Results

5(a) Data Preparation

EPA will prepare the Section 316(b) survey data in a manner consistent with other survey efforts at the agency (e.g., past effluent guidelines surveys). Upon receipt of the completed questionnaires, they will be reviewed for coding consistency, missing data, and obvious inconsistencies in reported data by engineering and economic staff. Any inconsistencies will be resolved through call backs and any changes made will be documented. Contractor resources will be used for this effort as well as for data entry. Once the data is entered into a database, numerous manual and electronic QA activities are performed and the results provided to engineering and economic staff for further resolution and documentation.

5(b) Analysis

Analyses of the questionnaires will have the objectives of (a) producing narrative and quantitative characterizations of industry groups, water body types, and cooling water intake structures and technologies, (b) characterizing plant-specific and site-specific factors that distinguish potential for adverse environmental impact, (c) characterizing plant-specific and site-specific factors that distinguish technology options and costs for reducing adverse environmental impact, (d) estimating costs of regulatory options and impacts; (e) estimating benefits of regulatory options. *Please refer to Section 4(b) of Part A of this ICR for additional information on this topic.*

5(c) Reporting Results

All responses containing or consisting of CBI will be so identified in the survey database. Regulations governing confidentiality of business information appear at 40 CFR Part 2 Subpart B, and these are adhered to strictly by EPA and its contractors. Safeguards and procedures for CBI are described in written plans maintained by EPA and its contractors.

Information not classified as CBI could potentially be shared with any interested parties. Such information is subject to Freedom of Information Act (FOIA) requests. Results of EPA's analyses become publicly available most often in three ways: (1) within proposed and final rules published in the *Federal Register*, (2) within development and supporting documents otherwise published in support of rulemaking, and (3) within materials placed in the rulemaking docket. The first two classes of documents are being made available by EPA on the Internet with increasing frequency; and this mode of reporting is a possibility for the results of the questionnaires described in this ICR.

ATTACHMENT 1

Consent Decree (November 2002)

ATTACHMENT 2

Economic Analysis in the Rulemaking Process

Economic Analysis in the Rulemaking Process

I. Various statutes and other new mandates require agencies to conduct economic analyses of environmental regulations. These analyses must consider a wide range of economic and social issues that are potentially affected by environmental regulations. Mandates requiring the economic analyses of regulatory policies include:

- **Executive Order 12866, "Regulatory Planning and Review"** requires analysis of benefits and costs for all significant regulatory actions. E.O. 12866 requires a statement of the need for the proposed action, examination of alternative approaches, and analysis of social benefits and costs. E.O. 12866 also states that the distributional and equity effects of a rule should be considered, including distribution by income group, race, sex and industrial sector. Where thought to be important, these effects should be quantified to the extent possible.

- **The Unfunded Mandates Reform Act of 1995 (PL 104-4)** directs agencies to assess the effects of Federal regulatory actions on State, local and tribal governments, and the private sector, and to obtain meaningful input from State, local and tribal governments for rules containing "significant Federal intergovernmental mandates." These are Federal mandates which may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any one year.

- **The Regulatory Flexibility Act of 1980** (RFA) requires that Federal agencies conduct a screening analysis to determine whether a regulation will have a significant impact on a substantial number of small entities, including small businesses, governments and organizations. If the screening analysis finds that a regulation will have such an impact, agencies must prepare a regulatory flexibility analysis, and comply with a number of procedural requirements to solicit and consider flexible regulatory options that minimize adverse economic impacts on small entities.

- **The Small Business Regulatory Enforcement Fairness Act of 1996 (PL 96-354)** (SBREFA) strengthened the analytical and procedural requirements of the Regulatory Flexibility Act. EPA has prepared Interim Guidance on complying with the RFA and SBREFA requirements. In addition, the Small Business Administration has issued guidance on compliance with the RFA.

- **Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"** requires Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations. E.O. 12898 also requires equal consideration for Native American programs. There is an interagency task force working on these issues.

II. EPA policy makers have also increased their requirements for analysis of the effects of environmental regulations. Policy makers need information on the benefits, costs, and other effects of alternative regulatory options in order to make sound decisions.

Economic analyses play an important role throughout the policy development process. Economists play an early role in the development of regulations and participate in an interactive process with policy makers. Preliminary evaluation of potential options requires information on costs, economic impacts, benefits, and equity. Regulatory impact analyses contain the following information:

1. Industry Profile

An industry profile compiles information on an industry that (1) supports definition of the baseline, (2) supports judgments about what impacts are likely to be important, and (3) provides the data needed to predict compliance responses and characterize impacts. Specifically, the profile should:

A. Provide a description of the regulated industry, including the numbers and sizes of participants,

their products, historical trends in production, sales, costs and profitability, and where possible, projections of future market conditions.

B. Present an analysis of baseline economic, financial, and environmental conditions. An economic analysis of a policy or regulation compares "the world with the policy or regulation" with "the world without the policy or regulation" (baseline). The impact of the regulation is the difference between these two situations.

C. Describe organizational and behavioral characteristics of affected and related firms that influence the likely response of affected facilities to regulatory options.

D. Identify and differentiate significant subcategories within the industry, based on size (e.g., small versus large entities), differences in baseline and post-compliance financial conditions, and differences in the expected costs of compliance.

E. Discuss the relationship between affected facilities and linked industries, communities, and foreign competition.

2. Industry Costs of the Regulation

EPA regulations typically require industry to reduce the level of some environmental harm. In the case of the Section 316(b) regulation, the harm is defined as adverse environmental impact from impingement and entrainment. The costs of these regulations may include direct expenditures on control technologies, operating and maintenance requirements, and process changes needed to achieve the reduction. In the case of the Section 316(b) regulation, an additional direct cost may be expenditures for Section 316(b) demonstration studies. In addition to these direct expenditures, EPA takes into account indirect costs on the regulated industry such as effects of compliance costs on the price of the industry's products and on the markets in which the products are bought and sold.

3. Social Costs of the Regulation

The analysis of social costs focuses on the impact of regulations on U.S. welfare. The analysis is net of social transfers. Monetary sums that measure changes in individual welfare are all weighted equally regardless of the identities of the parties affected. Social costs of a regulation include the costs Federal, state, and local governments incur when they administer and enforce new regulations. Transitional costs associated with involuntary unemployment are usually included when they pose significant social costs. Lost wages and job search costs during the time laid-off workers are unemployed can be used as a proxy for transitional social cost.

4. Economic and Financial Impacts of the Regulation

This part of the regulatory impact analysis identifies and assesses the economic and financial impacts of the regulation on the following groups:

A. *Impacts on the Regulated Industry*

i. <u>Impacts on Profitability</u>

Information required includes financial data such as sales/revenues, earnings, and balance sheet data. The analysis of profitability determines how the added costs of compliance will affect the financial strength of the firm.

ii. <u>Impacts on Prices</u> (where possible)

A rule that imposes large costs on the manufacture of important production inputs could contribute to general price inflation. A rule without significant price impacts at the macro level may still impose a burden on selected industries or customers.

iii. Impacts on the Industry's Competitive Position

Changes in competitive conditions in an industry may affect the industry's market position, as well as its growth, price performance, and innovative efforts.

B. *Employment Losses and Community Impacts*
Where plant or production line closures are predicted, or where a market analysis predicts a reduction in output, employment losses will result. If significant, these losses can affect the communities in which they occur.

C. *Regional Impacts*
Some rules may have disproportionate impacts on specific regions and local economies. Once costs, compliance responses, and employment impacts have been calculated, the results can be shown by region to assess the potential for regional impacts.

D. *Impacts on Governments and Non-Profits*
The analysis of governments and non-profits addresses the "affordability" of incremental costs. The significance of cost increases can be assessed by comparing costs with tax receipts, median household income, tax assessment ratios, general fund balances, current debt ratings, and other measures of financial condition for state, municipal, local and tribal governments. Government impacts include both direct compliance costs and costs of administering programs.

E. *Impacts on Small Entities*
The small entity analysis is an extension of the economic analysis on industry, governments and non-profits. The analysis determines which facilities belong to small firms, which governments or non-profits are small, calculates impacts for those entities as a group, and then applies the criteria described in the *SBREFA Interim Guidelines* to support a determination as to whether the rule will or will not impose "a significant impact on a substantial number of small entities."

F. *Impacts on Sub-Populations*
This analysis examines equity and distributional impacts of the rule. In specific, an equity analysis determines the distribution of net costs and net benefits that accrue to specific sub-populations. Generally, cost and benefits occur to subcategories of four populations: individuals, businesses, governments, and not-for-profit organizations. The Agency must perform an equity analysis if a rule is expected to have a "disproportionate, substantial, and significant impact on specific sub-populations.

5. Benefits of the Regulation

The benefits of a regulation are defined as the difference in environmental attributes between the world with the policy or regulation and the baseline. Benefits of the Section 316(b) regulation include reduced damages to natural resources and increased benefits to commercial, recreational, and subsistence fishermen. Benefits are estimated in various ways, including:

A. *Assessing the ecological benefits of changes in the value of "services" provided by the affected natural resources.* For example, a healthy eco-system provides high quality fish spawning habitat, food, and cover for various aquatic species. This can include an analysis of individual species, communities, eco-systems, biodiversity, and endangered species.

B. *Assessing the benefits of changes in the value of the "services" to humans provided by the affected natural resources.* For example, the presence of an aquatic species may provide recreational and commercial fishing opportunities. Market supply and demand analysis can be used to assess effects on commercial fishing, travel cost models can be used to assess various recreational effects, and contingent valuation can be used to assess indirect nonuse values (e.g., existence value).

6. Change in Net Social Welfare/Benefits

Several steps are required in estimating the change in net social welfare or benefits resulting from a regulation. These steps include:

A. *Calculation of Net Social Benefits of Each Regulatory Option*

The net social benefits of each major regulatory option are estimated by subtracting the present value of total compliance costs from the present value of total benefits. The same baseline is used in both the benefit and cost analyses.

B. *Selection of the Best Regulatory Option*

Determining which regulatory option is best, even on the narrow basis of economic efficiency, may be difficult due to data uncertainties, the presence of quantifyable but not monetizable benefits, and benefits that can only be qualitatively assessed.

C. *Role of Net Social Welfare Estimation in the Policy Development Process*

A net social benefits estimate is not sufficient to define the best policies. Economic analysis must be viewed as part of a larger policy development process in which no single factor or finding dominates. The role of the economic benefit/cost analysis is to organize information and comprehensively assess the effects of alternative actions on costs, benefits, equity effects, economic and financial impacts - and the trade-offs among them.

ATTACHMENT 3

Public Notice

ATTACHMENT 4

Revised Version of the Draft Industry Questionnaires (December 2002)

- Detailed Industry Questionnaires: Phase II Cooling Water Intake Structures
  - Offshore and Coastal Oil and Gas Extraction
  - Offshore Seafood Processors
- Short Technical Industry Questionnaire

ATTACHMENT 5

Justifications for Questions in Draft Industry Questionnaires August 1999